Change drives change
Word order and the auxiliaries in Ælfric's *Catholic Homilies*

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1 Introduction

Many changes that took place in the history of English did not take place in its closest relative Dutch, and anyone familiar with both languages is bound to wonder why. One reason appears to be that many changes took place simply because of other changes. This point has been made repeatedly in Olga Fischer's work. Whether and how a language changes is at least in part determined by its current grammatical system, which in turn is the product of prior changes. At one point, she puts it as follows:

> The system of every language forms a complex network in which each linguistic sign, both concrete and abstract, is organized with respect to all other signs, both within each level and between levels (i.e. the phonetic, the morphological, the syntactic, the semantic-pragmatic, and discourse levels). A shift in one 'box' in the grid may therefore have repercussions on its own level, and on higher or lower levels depending on its function and frequency. Thus a phonetic change usually affects all words that share the same sound in the same or similar surroundings. […] If the sound change concerns a frequent sound which carries a grammatical function (e.g. an inflection), it may well have repercussions above the immediate phonetic/phonological or lexical level.
>
> (Fischer 2007: 322-3)

Several examples of this can be found in the effect that word order changes have had on developments in other areas of English grammar. Consider for one the contrast between English *have to* and its Dutch cognate *hebben te*. English *have to* displays typical auxiliary behaviour. While transitive in origin, *have* no longer requires a direct object (1a); selectional constraints on its subject are imposed only by the infinitive (1b); and *have to* is transparent to passivization (1c). In contrast, Dutch

hebben te (2) is restricted to taking animate subjects and *hebben* needs an object that it formally shares with the infinitive.

(1) a. *and she **had to** go home before it finished* (BNC)
b. *the hit **had to** look like natural causes* (COCA)
c. *because the complaint **has to** be made through the regiment* (BNC)
(2) *en ja voor de rest ik **heb** een heleboel dingen **te** regelen* (CGN)
'and apart from that I have a lot of things to organize'

In fact, the situation in Dutch resembles that in Middle English, as illustrated in (3).

(3) *Thanne comth lachesse; that is he, that Whan he biginneth any good werk, anon he shal forleten it and stynten; as doon they that **han** any wight **to** governe, and ne taken of hym namoore kep, anon as they fynden any contrarie or any anoy*. (c1390, Chaucer, *The Parson's Tale*)
'Then comes negligence; that is (found in) him who, starting a good work, at once abandons it and gives it up; as do they who have any creature to look after but take no more care of it as soon as they encounter any difficulty or trouble.'

It was only relatively recently that the *have to* and *hebben te* constructions in the two languages drifted apart. The question is: how? As argued by Fischer (1994), the object that was formally shared by *have* and the infinitive was semantically often just the object of the infinitive. This situation already held in Middle English and it probably also holds in Dutch examples like (2) above. But when English, unlike Dutch, lost object-verb order in subordinate clauses, the natural position of the object came to be following the infinitive. Then, once *have* and *to* had become adjacent, they could be reinterpreted as a grammatical operator modifying the lexical verb, and they jointly headed down the road to auxiliarihood. In brief, one change brought about another.

Of course, while attractive and often persuasive, this line of reasoning always raises the same question. If one change was triggered by another earlier change, then what caused the earlier change? As to the word order changes that swept through the grammar of English, it would be naïve to think they had a single cause.

At least deflection and language contact are often quoted as some of the main culprits. Nevertheless, I would like to suggest here that interactions between word order change and the grammaticalization of new auxiliaries have a longer history and actually may have worked in both directions. Indeed, in Old English the grammaticalization of new auxiliaries may have helped promote some of the newly emerging word orders.

2 A tentative hypothesis

Old English was basically a verb-final language. Verbal heads would go in clause-final position and they would be preceded by their dependents, including any arguments and adverbial modifiers. In subordinate clauses this was indeed the surface order typically attested, as in both the *gif*-clause and *swa*-clause in (4a). Even so, some dependents could also end up in post-verbal position, especially when they were heavy, as in the relative clause in (4b) – a phenomenon known in the grammatical traditions of Dutch and German as 'exbraciation'. In main clauses matters were complicated by movement of the verb to a clause-initial position. Usually this was the second position (hence the term 'verb-second'), as in the main clauses in (4a-b), but it could also be the first position or the third position, and sometimes there was no movement at all. For details, see Los (2015).

(4) a. *Gif þu ðas word mid weorcum* ***gefylst****. þonne* ***do*** *ic swa þu me* ***tihtst****.*
if you that word with deeds fulfil then do I as you me urge
'If you fulfil that promise, then I will do as you ask me.'

b. *Heofenan rice* ***is*** *gelic sumum cyninge þe* ***worhte*** *his suna gifte.*
of-heaven kingdom is like some king who worked his sun marriage
'The kingdom of heaven is like a certain king who organized a wedding for his son.'

This system will produce predictable word orders as long as every verb is clearly a verb. But what if some verbs begin to grammaticalize and develop into functional operators? Grammaticalization is notorious for obscuring the word class of the items it affects. As one of the hallmarks of early grammaticalization Hopper (1991) names 'decategorialization'. And when it comes to verbs in particular, Heine (1993) argues that lexical verbs may gradually lose their status as verbal heads when they develop into auxiliaries. For English, Fischer (2007: 198) even suggests that modal verbs became rather like subjective adverbs. It is possible, then, that some verbs are less verb-like than others, particularly when they undergo grammaticalization.

The development of the current system of English auxiliaries was already underway in Old English. Most importantly, *be* with past participle had developed into a passive auxiliary, and there was advanced functional specialization along with (historically inherited) formal idiosyncrasy in the group of verbs that were to become the modals (Denison 1993; Warner 1993). So what were speakers of Old English to do with clauses involving one of those grammaticalizing items? If they treated them as verbal heads, the accompanying non-finite verb forms had to be the heads of dependent clauses and so ought to be clause-final. This is what we see in (5). The past participle *genumen* in (5a) and the bare infinitive *geseon* in (5b) follow their dependents.

(5) a. *Þu* ***eart*** *of* *eorðan* ***genumen***
you are from earth taken
'You are taken from the earth.'

b. *Ne* ***mihte*** *ure* *mennisce* *gecynd* *Crist* *on* *ðære* *godcundlican*
not might our human nature Christ on that divine
acennydnesse ***geseon***
nativity see
'Our human nature could not see Christ in that divine nativity.'

But if the grammaticalizing items were no longer recognized as verbal heads, the clause-final position for the accompanying non-finite verb would have made less syntactic sense. This in turn may have contributed to deviations from verb-final order becoming more acceptable, as in (6). Here, *beweddod* in (6a) and *forestihtan* in (6b) precede their dependents.

(6) a. *& heo **wæs** **beweddod** þam rihtwisan Iosephe*
and she was espoused to-the righteous Ioseph
'And she was wedded to the righteous Joseph.'

b. *He **nolde** **forestihtan** þa arleasan to his rice*
he not-would predestine the wicked to his kingdom
'He would not predestine the wicked to his kingdom.'

It is conceivable then that the grammaticalization of new functional operators like passive *be* and the modals would have facilitated the spread of post-verbal dependents in subordinate clauses. The following presents some evidence to support this possibility.

3 Data

To test the above hypothesis, data have been drawn from Ælfric's *Catholic Homilies*, using the part-of-speech-tagged edition in the *York-Toronto-Helsinki Parsed Corpus of Old English Prose* (using the file cocathom1.pos). The text is 10th-century and representative of Late Old English. It already shows considerable word order variation. In subordinate clauses, verb-final order is still the default but deviations are quite common (as we will see below).

In what follows, word order preferences in finite subordinate clauses will be taken as a baseline against which to compare the behaviour of non-finite clauses following three sets of grammaticalizing items: the adhortative marker *uton*, the passive auxiliary *be*, and the modals. The data thus consist of four samples:

1. The first sample was created by querying the text for any finite forms of lexical verbs (tagged _VBP* or _VBD* in the corpus). The sample was randomized and data were analysed until 100 finite forms had been collected in subordinate clauses.
2. The second sample contains all instances of the adhortative marker *uton* with a bare infinitive clause – 37 instances in total.
3. The third sample was created by querying the text for any forms of the verb *be* (tagged _BE* in the corpus). This sample, too, was randomized. Data were to

be analysed until 100 instances had been collected with *be* as passive auxiliary. Accidentally, I analysed 104. The four surplus examples were retained.

4. The fourth sample was created by querying the text for any modal verbs (tagged _MD* in the corpus). The sample was randomized and data were analysed until 200 instances had been collected of a modal with a bare infinitive.

4 Results

In finite subordinate clauses with a lexical head verb, the dominant word order is still verb-final. Of the 100 clauses collected, only 30 contained any post-verbal 'exbraciated' material. To be sure, not all 100 clauses contain material that could have been exbraciated in the first place. Some subordinate clauses only consist of a subject and verb. Others have additional dependents but those dependents are pronominal. In the whole data set, pronominal dependents are nearly always found pre-verbally, so it is reasonable to assume that pronominal constituents as a rule did not engage in the word order variation found for longer constituents.[1] Counting only the non-pronominal constituents, which had a fair chance of being exbraciated, finite subordinate clauses show an exbraciation rate of 33% (i.e. 39 out of 120 constituents dependent on the verb are post-verbal). Knowing this, we can examine whether the non-finite clauses with various grammaticalized or grammaticalizing operators behave any less conservatively.

4.1 *Uton*

The simplest test case is the adhortative marker *uton*. Following an extensive review of the evidence, van Bergen (2013: 157) concludes that, even though *uton* was a

[1] The data set contains only a handful of counterexamples. One is given as (7c) below. Another is the clause *þæt God ælmihtig forgife us ure synna* 'that God almighty may forgive us our sins', with a pronominal indirect object following the verb. Other one-word constituents, including adverbs and secondary predicates, also favour pre-verbal position but much less strictly so. Further note that subordinate clauses have not been counted as constituents, nor have constituents including a subordinate clause. They hardly ever occur inside the clausal brace.

verb form in origin, it “had probably grammaticalized to a point where speakers no longer treated it as a verb”. In any case, *uton* is the least verb-like element of the grammatical operators considered in this study. If *uton* was not clearly a verb, the bare infinitives accompanying it may have been less likely to be recognized as dependent clauses. Word order in these infinitive clauses confirms this. Of the 37 instances of *uton* in Ælfric’s *Catholic Homilies*, only two have a clearly verb-final infinitive clause. One of these is given in (7a). In some examples a light element that is dependent on the infinitive comes in pre-verbal position, but the heavier dependents are post-verbal, as in (7b). In the remaining examples, the infinitive is clause-initial, either immediately following *uton*, as in (7c), or at most separated from *uton* by the optional subject pronoun *we* or by light adverbs, such as *nu* or *forði* (which, arguably, are not dependent on the infinitive).

(7) a. ***Uton*** *for ði ælc yfel forfleon & god be ure mihte*
let us then every evil flee and good by our power
gefremman
do
‘Let us then flee from every evil and do good according to our power.’

b. *&* ***uton*** *heononforð stranglice* ***wiðstandan*** *deofles tihtincgum*
and let us henceforth strongly resist devil’s instigations
‘And let us henceforth strongly resist the devil’s instigations.’

c. *ac* ***uton*** ***gewyrcan*** *him gemacan*
and let us make him companion
‘Now let us make a companion for him’.

Calculated in the same way as for finite subordinate clauses, the exbraciation rate in infinitive clauses following *uton* is 81% (i.e. 39 out of 48 constituents). The difference with finite subordinate clauses is highly significant ($p < 0.0001$, using a Fisher’s Exact Test). To see these figures in the right perspective, it should be borne in mind that even Present-Day English does not exbraciate (if the term is still appropriate) at 100%. Adverbs can still occur before the bare infinitive, as in (8).

(8) *so that the editor* ***may*** *immediately* ***examine*** *any portion of the full text* (BNC)

It therefore looks like the infinitive clauses following *uton* had largely abandoned verb-final word order and approximated the order typical of Present-Day English.

4.2 Passive *be* and the modals

Passive auxiliary *be* and the modals were not always behaving quite like lexical main verbs even in Old English (Plank 1984; Denison 1993; Warner 1993; Fischer 2007). That this was so is also suggested by some word order phenomena. First, dependents of the lexical verb can take the clause-initial position, directly preceding auxiliary *be* or a modal, as in (9a-b). This can be taken to indicate that passive and modal constructions are essentially monoclausal also in Old English.

(9) a. *&* ***þurh*** ***Criste*** ***beoð*** *ealle þa geleaffullan* ***gebletsode****.*
and through Christ are all the faithful blessed
'And through Christ all the faithful will be blessed.'

b. ***þa*** ***scolon*** *þa lareowas* ***gegadrian****.*
that should the teachers gather
'That (is what) our touchers should gather.'

Second, lexical main verbs regularly appear in clause-final position in coordinated main clauses, as in (10). At least in the samples drawn on here, this pattern is not attested for either passive auxiliary *be* or the modals, which is suggestive of another difference between them and lexical main verbs.[2] Note that passive *be* and the modals do occur in clause-final position in subordinate clauses (see particularly (12a) below).

(10) *Næfð min niht nane forsworcennysse: ac heo mid beorhtum*
not.have my nigh no darkness but she with bright
leohte ***scinð****.*
light shines

[2] It is attested for copular *be*, however, as in *He ne hrymde. ne biterwyrde* ***næs*** 'he did not cry, nor was he inclined to bitterness'.

‘My night has no darkness but shines with a bright light.’

Third, sometimes the entire combination of operator and lexical verb precedes the subject, as in (11). One interpretation might be that operator and lexical verb are behaving as a unit here and jointly engage in verb-second.[3]

(11) a. *Fram þam halgan easterlican dæge* ***sind getealde*** *fiftig daga to*
from the holy Easterly day are counted fifty days to
þysum dæge.
this day
‘From the holy day of Easter are counted fifty days to this one (Pentecost).’

b. *ac þider ne* ***mæg astigan*** *nan modignes.*
but thither not may ascend no pride
‘But no pride may ascend there.’

From these more or less tentative observations, let us turn to the incidence of exbraciation, as investigated in the relevant samples. The hypothesis is most easily tested where passive *be* or a modal is part of a main clause. In main clauses with a modal and bare infinitive, dependents of the bare infinitive are found to show an exbraciation rate of 45% (i.e. 55 out of 122 constituents). This is considerably less than in the bare infinitives following *uton* but it is still significantly more than in finite subordinate clauses ($p < 0.05$, using a Fisher’s Exact Test). Remarkably, the exbraciation rate with modals is lower when the modal is negated.[4] This might be congruent with the hypothesis. As negation is marked directly on the verb in Old English, a modal with negative marker may have looked more verb-like than one without and so might have been more likely to be identified as the verbal head.

[3] An alternative explanation is that sometimes long or indefinite subjects could occupy clause-final position without having to be adjacent to the finite verb. On that interpretation, it is the positional freedom of the subject that is remarkable, not the adjacency of the two verb forms.

[4] With negative modals the exbraciation rate is only 33% (14 out of 42 constituents), while with non-negated modals it is 51% (41 out of 80 constituents). The difference approximates significance ($p = 0.08$, using a Fisher’s Exact Test).

In main clauses with auxiliary *be* and past participle, dependents of the participle show an exbraciation rate of 52% (i.e. 26 out of 50 constituents), which is again higher than in finite subordinate clauses. This might be comparing apples to oranges, however, because past participles in the passive construction cannot take direct objects, unlike other subordinate verb forms. To improve comparison, the exbraciation rate in finite subordinate clauses can be adjusted by ignoring any direct objects. When the adjustment is made, the exbraciation rate in finite subordinate clauses drops to 27% (i.e. 22 out of 81 constituents).[5] It is safe to conclude then that exbraciation is much more common with respect to the past participles in the passive construction than with respect to the head verbs of finite subordinate clauses ($p < 0.01$, using a Fisher's Exact Test).

The results so far are summarized in Figure 1. The graph shows exbraciation rates as the ratio between pre-verbal and post-verbal constituents for dependents of lexical verbs in finite subordinate clauses, bare infinitives following *uton*, past participles with main clause *be*, and bare infinitives with main clause modals. Knowing what happened later, it can be said that the word order in subordinate finite clauses with a lexical verbal head was most conservative, while bare infinitives with *uton* were most progressive. The past participles with passive *be* and the bare infinitives with modals took an in-between position, with the latter slightly more conservative than the former. It seems reasonable to assume that this reflects the degree to which the operators in question had grammaticalized at the time.

[5] This will be surprising to a speaker of Dutch, where objects cannot exbraciate. In Ælfric's Old English prose they clearly can and even do so more readily than prepositional phrases. This is why the exbraciation rate in finite subordinate clauses drops when objects are ignored.

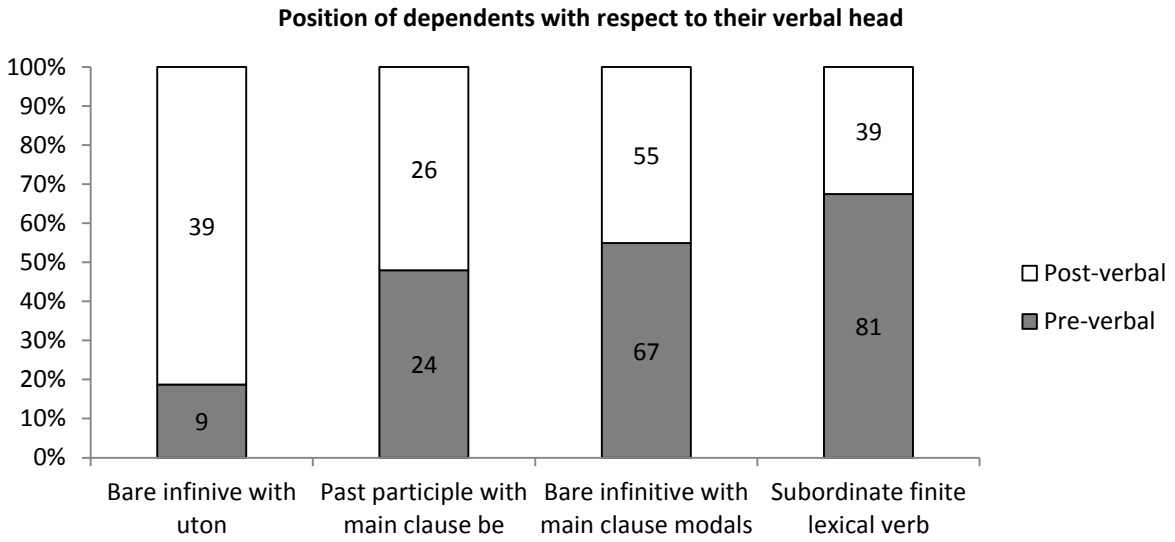

Figure 1. Position of dependents with respect to bare infinitives with *uton*, past participles with main clause *be*, bare infinitives with main clause modals, and subordinate finite lexical verbs.

Matters are more complicated where passive auxiliary *be* or the modals are themselves part of a subordinate clause. If they are recognized as the verbal head they should be able to appear clause-finally, preceded by the past participle or infinitive. I will refer to this order as 'verb-operator'. In verb-operator subordinate clauses, the whole subordinate clause complex tends to be head-final, as in (12a). It is exceptional for any dependents on the lexical verb to follow their head, as in (12b). Thus, exbraciation rates are low, at 20% for bare infinitives with modals (i.e. 4 out of 20 constituents), and 38% for past participles with passive auxiliary *be* (i.e. 5 out of 13 constituents).

(12) a. *& se æftemysta cwyde. þeah þe he synderlice to þam*
and the last sentence though it separately to the
apostolon ***gecweden*** ***wære****. belimpð eac to eallum Cristes*
apostels said was belongs also to all of-Christ
lymum.
followers

‘And although the last sentence was communicated to the apostles only, it belongs to all Christ’s followers as well.’

b. *Se gewuna stent* […] *þæt gehwær on Godes gelaþunge*
the custom exists that everywhere in God’s church
se sacerd ***bletsian scule*** *palmtwigu on ðisum dæge*
the priest bless shall palm-twigs on this day
‘The custom exists that everywhere in God’s church the priest should bless palm twigs on this day.’

However, in many subordinate clauses, *be* and the modals do not follow the lexical verb. Instead they often seem to occupy the same position as in main clauses. Typically this is the second position from the left, give or take one constituent. Such ‘operator-verb’ subordinate clauses are illustrated in (13) – without exbraciation in (13a) and with exbraciation in (13b). Generally, exbraciation occurs more freely in this context, at 46% for bare infinitives with modals (i.e. 37 out of 80 constituents), and at 56% for past participles with passive auxiliary *be* (i.e. 14 out of 25 constituents). These rates are significantly higher than in finite subordinate clauses ($p = 0.05$ and $p < 0.05$ respectively, using a Fisher’s Exact Test). The difference with verb-operator subordinate clauses is significant for the modals ($p < 0.05$).

(13) a. *ac us twynað hwæðer ge* ***magon*** *maran deopnysse*
but to-us is-doubtful whether you can more depth
þæron þearflice ***tocnawan***
therein usefully discern
‘But we doubt whether you can with profit discern any greater depth in this (subject matter).’

b. *And he lædde hi ða ut of þære byrig up to anre dune.*
and he led them then out of that city up to a hill
þe ***is gehaten*** *Mons Oliueti*
that is called Mons Oliueti
‘And then he led them out of the city up a hill that is called the Mount of Olives.’

The results for sub-clause *be* and the modals are summarized in Figure 2. In brief, exbraciation is more common with auxiliary *be* than with the modals and is more common when the clause has operator-verb order than when its order is verb-operator.

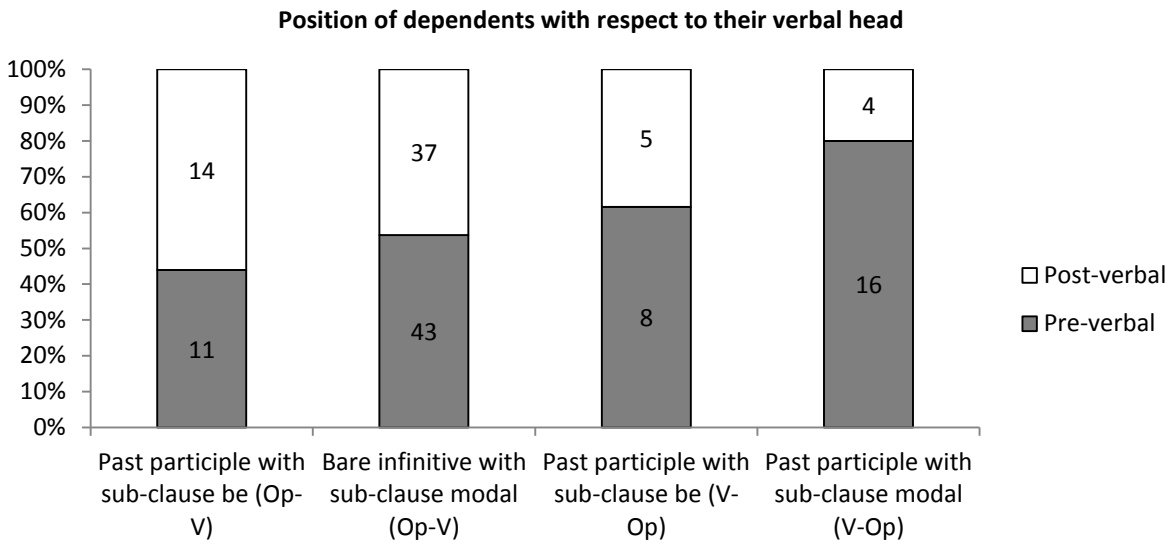

Figure 2. Position of dependents with respect to past participles with *be* and bare infinitives with modals, in operator-verb (Op-V) and verb-operator (V-Op) subordinate clauses.

That verb-operator clauses have more conservative exbraciation rates fits the hypothesis. As long as *be* and the modals are clearly treated as heads, there is no trigger for the accompanying past participles and bare infinitives to deviate from subordinate clause behaviour. The comparatively high exbraciation rates in operator-verb subordinate clauses are, in a way, more surprising. After all, the lexical verb will be part of a subordinate clause, even if auxiliary *be* or the modal is not identified as a syntactic head. Then again, the high exbraciation rates may be motivated by analogy. Operator-verb subordinate clauses look very much like main clauses, as the operator takes exactly the position it would in a main clause. This may be enough to justify why exbraciation rates, too, are similar.

5 Conclusions

From the above, one thing is clear. The loss of verb-final word order, which began in Old English, did not affect all subordinate clauses at the same rate. Verbal dependents appeared more readily in post-verbal position when their head was a bare infinitive with *uton* or one of the modals, or when it was a past participle with the passive auxiliary *be*. In subordinate clauses with a finite lexical verb, they were less likely to appear post-verbally. A possible explanation is that main-clause-like word orders were more acceptable in those clauses that were less easily recognisable as subordinate clauses. This is in line with the hypothesis formulated above. If this interpretation is correct, the grammaticalization of new verbal operators was one of the factors that contributed to the decline of object-verb word order. The hypothesis, then, is supported by some of the word order tendencies in Ælfric's *Catholic Homilies* – though, obviously, it would be a good idea to test the hypothesis on a bigger corpus, representing more than one text and author and including also earlier Old English sources.

There is one troubling issue, however, which will especially nag those familiar with Dutch and German. In these closely related languages, the grammaticalization of verbal operators seems to have had less of an effect on word order – witness Dutch pairs like (14). To properly understand what happened in English, then, it is advisable to continue keeping an eye on its closest relatives. Perhaps a modal like Dutch *moeten* has always been more verb-like – and hence 'head'-like – than its English cognate *must*. Or maybe the Dutch modals grammaticalized too late, at a time when word order had already become more rigid. This brings us back to where we started. Just as every language change can trigger new changes, every possible explanation raises new questions.

(14) a. *je **moet** een theepot **kopen*** (CGN)
'You have to buy a teapot.'
b. **je **moet kopen** een theepot*

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